

Attorney Docket No.: UT-0030
Inventors: Rao et al.
Serial No.: 09/736,728
Filing Date: March 16, 2001
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Applicants in this response. Claims 13 and 49 have been amended. No new matter has been added by these amendments. Reconsideration is respectfully requested in light of these amendments and the following remarks.

I. Finality of Restriction Requirement

The Examiner has made final the Restriction Requirement mailed June 27, 2002. Accordingly, in an earnest effort to advance the prosecution of this case, Applicants have canceled non-elected claims 1-12 and 20-48, without prejudice. In light of the finality of this Restriction Requirement, however, Applicants reserve the right to file a divisional patent application to the canceled subject matter.

II. Rejection of Claims 13-19 and 49 under 35 U.S.C. § 102(e) & 102(b)

Claims 13, 16-19 and 49 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Johe et al. (U.S. Patent 5,753,506). The Examiner suggests that Johe et al. teach a method of obtaining and propagating CNS glial precursor cells from mammalian/E12-E18 embryonic rats and 45-114 day old fetal humans in serum free/minimal essential salts medium. Further, the Examiner suggests that Johe et al. teaches differentiation of

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these cells into a population of process bearing astrocytes when treated with CNTF and oligodendrocytes when treated with PDGF and thyroid hormone.

Claims 13-19 and 49 have been also been rejected under 35 U.S.C. § 102(e) as being anticipated by Jai et al. (U.S. Patent 5,688,692). The Examiner suggests that Jai et al. teach a method of obtaining and propagating a population of mammalian/E18 embryonic rat CNS glial precursor cells that are also differentiated into non-process bearing astrocytes and oligodendrocytes in the presence of factors, PDGF, bFGF, or purified cortical astrocyte condition medium.

In addition, claims 13-18 and 49 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Gard et al. The Examiner suggests that Gard et al. teach a method of obtaining and propagating rat cerebral progenitor cells in BDM minimal salt medium. The Examiner suggests that Gard et al. also teach a method of switching these cells upon culturing under differentiation conditions to produce a stellate astrocytic/glial phenotype.

It is respectfully pointed out, however, that none of these prior art references teach or suggest a method for obtaining glial cells or continuously propagating glial restricted

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precursor cells wherein the glial restricted precursor cells are isolated by selecting cells expressing A2B5 antigen.

Instead, Johe et al. teaches a method of isolating subclones of cells with more than one cell type (see column 15 and 16). Further, in contrast to the method of the present invention wherein the A2B5 antigen is used to select GRP cells, Johe et al. teach that no simple antigenic marker which uniquely identifies multipotential stem cells from other precursors in vitro is available (col. 13, line 59-61).

Jat et al. also fail to teach a method for isolating GRP cells via selection of cells expressing the A2B5 antigen. As taught at column 25 (lines 5-15) of Jat et al., their cultures contained bipolar cells which could be labeled with the A2B5 antibody as well as a separate group of cells labeled with antibodies against the vimentin intermediate filament and SSEA-1. Finally, Gard et al. teach a method for obtaining a mixed population of cells from postnatal rat brain, in particular the optic nerve of 4 day old rats, via immunoselection with Gd3 ganglioside, O4 and galactocerebroside (GalC) antibodies.

Accordingly, in an earnest effort to advance the

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prosecution of this case and to clarify distinctions between the instant invention and prior art teachings, Applicants have amended claims 13 and 49 to state that the glial restricted precursor cells are isolated by selecting cells expressing A2B5 antigen. Support for this amendment can be found in Example 1 wherein a procedure for immunopurification of A2B5+ GRP cells is described in detail. Since none of the cited prior art references teach the method as now set forth in amended claim 13 and 49, they can not anticipate theses claim or claims dependent therefrom. It is therefore respectfully requested that these rejections under 35 U.S.C. § 102(e) and 102(b) be withdrawn.

III. Conclusion

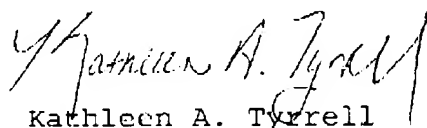
Applicants believe that the foregoing comprises a full and complete response to the Office Action of record. Accordingly, favorable reconsideration and subsequent allowance of the pending claims is earnestly solicited.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The

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attached page is captioned "VERSION WITH MARKINGS TO SHOW
CHANGES MADE."

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Claims:

Please cancel claims 1-12 and 20-48, without prejudice.

Please amend the claims as follows:

13. (amended) A method of obtaining glial cells comprising:

(a) providing glial restricted precursor cells isolated by selecting cells expressing A2B5 antigen; and

(b) plating the glial restricted precursor cells under differentiating conditions, thereby causing the glial restricted precursor cells to differentiate into glial cells.

49. (amended) A method for continuously propagating glial restricted precursor cells comprising the steps of:

(a) providing said glial restricted precursor cells isolated by selecting cells expressing A2B5 antigen; and

(b) culturing said glial restricted precursor cells *in vitro* in the presence of minimal essential salts and effective amounts of platelet derived growth factor and fibroblast growth factor.